

Status of All Claims in the Application:

1-21. (Canceled)

22. (Previously presented as dependent claim 7) A transport assembly for moving a first cartridge and a second cartridge between a storage rack and a tape drive, the tape drive including a cartridge receiver, the transport assembly comprising:

a transporter including a first transport receiver that receives the first cartridge and a second transport receiver that receives the second cartridge;

a transport mover for moving the transporter relative to the storage rack and the tape drive; and

a cartridge mover that moves the first cartridge between the storage rack and the first transport receiver, the cartridge mover including a pass-through assembly.

23. (New) The transport assembly of claim 22 wherein one of the cartridges passes through the pass-through assembly during transport between the storage rack and the tape drive.

24. (New) The transport assembly of claim 22 wherein the transport mover moves the transporter along an X axis and along a Y axis.

25. (New) The transport assembly of claim 24 wherein the transport mover rotates the transporter about a Z axis that is substantially perpendicular to the X and Y axes.

26. (New) The transport assembly of claim 25 wherein the transport mover rotates the transporter between zero degrees and approximately 180 degrees about the Z axis to transport one of the cartridges between one of the tape receivers and the cartridge receiver.

27. (New) The transport assembly of claim 22 further including a guide that extends substantially between the storage rack and the tape drive, the transport mover moving the transporter between the storage rack and the tape drive along the guide.

28. (New) The transport assembly of claim 27 wherein the guide is somewhat L-shaped.

29. (New) The transport assembly of claim 27 wherein the guide is somewhat T-shaped.

30. (New) A storage system including a storage rack, a tape drive and the transport assembly of claim 22 that is positioned near the storage rack and the tape drive.

31. (New) The storage system of claim 30 wherein the storage rack includes a plurality of tape receivers and a transporter sensor, the sensor detecting alignment of the transporter relative to at least one of the tape receivers.

32. (Previously presented as dependent claim 13) A storage system for use with a first cartridge and a second cartridge, the storage system comprising:

a storage rack including a plurality of tape receivers and a transporter sensor;

a tape drive including a cartridge receiver; and

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a transport assembly that is positioned near the storage rack and the tape drive, the transport assembly moving the first cartridge and the second cartridge between the storage rack and the tape drive, the transport assembly including (i) a transporter having a first transport receiver that receives the first cartridge and a second transport receiver that receives the second cartridge, and (ii) a transport mover for moving the transporter relative to the storage rack and the tape drive;

wherein the transporter sensor senses when the transporter is positioned near the desired tape receiver.

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33. (New) The storage system of claim 32 wherein the transport assembly includes a pass-through assembly that moves one of the cartridges through the pass-through assembly during transport of one of the cartridges between the storage rack and the tape drive.

34. (New) The storage system of claim 32 wherein the transport mover moves the transporter along an X axis and along a Y axis.

35. (New) The storage system of claim 34 wherein the transport mover rotates the transporter about a Z axis that is substantially perpendicular to the X and Y axes.

36. (New) The storage system of claim 32 further including a guide that extends substantially between the storage rack and the tape drive, the transport mover moving the transporter between the storage rack and the tape drive along the guide.

37. (New) The storage system of claim 32 wherein the transport assembly includes a cartridge mover that moves one of the cartridges between the storage rack and one of the transport receivers, the cartridge mover including a gripper assembly that grips one of the cartridges, a first gripper mover that moves the gripper assembly along a first axis relative to the transporter, and a second gripper mover that moves the gripper assembly along a second axis relative to the transporter, the second axis being angled relative to the first axis.

38. (New) The storage system of claim 37 wherein the first axis is substantially perpendicular to the second axis.

39. (New) A transport assembly for moving a first cartridge and a second cartridge between a storage rack and a tape drive, the tape drive including a cartridge receiver, the transport assembly comprising:

a transporter including a first transport receiver that receives the first cartridge and a second transport receiver that receives the second cartridge; and

a transport mover that moves the transporter relative to the storage rack and the tape drive, the transport mover moving the transporter along an X axis and a Y axis, and rotating the transporter about a Z axis that is substantially perpendicular to the X and Y axes.

40. (New) The transport assembly of claim 39 wherein the X axis is substantially perpendicular to the Y axis.

41. (New) The transport assembly of claim 39 wherein at least one of the tape receivers is positioned substantially perpendicular to the cartridge receiver.

42. (New) The transport assembly of claim 39 wherein the transport mover rotates the transporter between zero degrees and approximately 180 degrees about the Z axis to transport one of the cartridges between one of the tape receivers and the cartridge receiver.

43. (New) The transport assembly of claim 39 further including a guide that extends substantially between the storage rack and the tape drive, the transport mover moving the transporter between the storage rack and the tape drive along the guide.

44. (New) The transport assembly of claim 43 wherein the guide is somewhat L-shaped.

45. (New) The transport assembly of claim 43 wherein the guide is somewhat T-shaped.

46. (New) The transport assembly of claim 39 further comprising a cartridge mover that moves one of the cartridges between the storage rack and one of the transport receivers, the cartridge mover including a gripper assembly that grips one of the cartridges, a first gripper mover that moves the gripper assembly along a first axis relative to the transporter, and a second gripper mover that moves the gripper assembly along a second axis relative to the transporter, the second axis being angled relative to the first axis.

47. (New) The transport assembly of claim 46 wherein the first axis is substantially perpendicular to the second axis.

48. (New) The transport assembly of claim 39 further comprising a cartridge mover that moves one of the cartridges between the storage rack and one of the transport receivers, the cartridge mover including a pass-through assembly.

49. (New) A storage system including a storage rack, a tape drive and the transport assembly of claim 39 that is positioned near the storage rack and the tape drive.

50. (New) The storage system of claim 49 wherein the storage rack includes a plurality of tape receivers and a transporter sensor, the sensor detecting alignment of the transporter relative to at least one of the tape receivers.

51. (New) A transport assembly for moving a first cartridge and a second cartridge between a storage rack and a tape drive, the tape drive including a cartridge receiver, the transport assembly comprising:

a transporter including a first transport receiver that receives the first cartridge and a second transport receiver that receives the second cartridge;

a transport mover that moves the transporter between the storage rack and the tape drive; and

a cartridge mover that moves one of the cartridges between the storage rack and one of the transport receivers, the cartridge mover including a gripper assembly that grips one of the cartridges, a first gripper mover that moves the gripper assembly along a first axis relative to the transporter, and a second gripper mover that moves the gripper assembly along a second axis relative to the transporter, the second axis being angled relative to the first axis.

52. (New) The transport assembly of claim 51 wherein the first axis is substantially perpendicular to the second axis.

53. (New) The transport assembly of claim 51 wherein the transport mover moves the transporter along an X axis, along a Y axis and about a Z axis that is substantially perpendicular to the X axis and the Y axis.

54. (New) The transport assembly of claim 53 wherein the transport mover rotates the transporter between zero degrees and approximately 180 degrees about the Z axis to transport one of the cartridges between one of the tape receivers and the cartridge receiver.

55. (New) The transport assembly of claim 53 wherein the transport mover rotates the transporter at least approximately 90 degrees about the Z axis to transport one of the cartridges between one of the tape receivers and the cartridge receiver.

56. (New) The transport assembly of claim 51 further including a guide that extends substantially between the storage rack and the tape drive, the transport mover moving the transporter between the storage rack and the tape drive along the guide.

57. (New) The transport assembly of claim 51 wherein the second gripper mover moves the gripper assembly between the first transport receiver and the second transport receiver.

58. (New) A storage system including a storage rack, a tape drive and the transport assembly of claim 51 that is positioned near the storage rack and the tape drive, the storage rack including a plurality of tape receivers and a transporter sensor, the sensor detecting alignment of the transporter relative to at least one of the tape receivers.

59. (New) A method for moving a first cartridge and a second cartridge between a storage rack and a tape drive, the method comprising the steps of:

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gripping a first cartridge with a gripper assembly;
moving the gripper assembly along a first axis relative to a transporter with
a first gripper mover to move the first cartridge into the transporter;
moving the gripper assembly along a second axis relative to the
transporter with a second gripper mover, the second axis being substantially
perpendicular to the first axis;
gripping a second cartridge with the gripper assembly; and
moving the gripper assembly along the first axis relative to the transporter
with the first gripper mover to move the second cartridge into the transporter.

60. (New) The method of claim 59 further comprising the step of moving the
transporter with a transport mover to transport one of the cartridges to a tape drive.

61. (New) The method of claim 60 wherein the step of moving the transporter
includes moving the transporter along an X axis, along a Y axis and about a Z axis that
is substantially perpendicular the X and Y axes.